USSN: 10/025,742
Art Unit: 2133
Submission under 37 CFR 1.114 pursuant to Final Action mailed 07/14/2005

Amendments to Claims

This listing of the claims will replace all prior versions, and listing, of claims in the application:

1(currently amended).   A method of identifying a failure location in a ~~datapath~~communications network having components capable of carrying active data traffic in the form of customer cells over a set of datapaths, comprising:

    establishing a datapath through said communications network from an ingress point to an egress point;

    inserting diagnostic cells into said datapath at a starting point, said diagnostic cells being distinct from said customer cells;

    tracking passage of said diagnostic cells at a plurality of points along said datapath downstream of said starting point with diagnostic cell match counters capable of distinguishing said diagnostic cells from said customer cells; and

    ~~in a set of datapaths, said datapath traversing from an ingress point through at least a first component to an egress point, said method comprising:~~

    ~~inserting a diagnostic cell into an active data traffic stream passing through said datapath at a starting point upstream of said first component in said datapath;~~

    ~~providing at least a first diagnostic cell counter module associated with a first location in said first component, said first diagnostic cell counter module recognizing when said diagnostic cell passes said first location and tracking passage of said diagnostic cell past said first location; and~~

    analyzing ~~said~~counts in said diagnostic cell match counters~~ module~~ to identify which said diagnostic cell match counters have failed to detect passage of said diagnostic cells; and

    identifying said failure location in said datapath as being upstream of the first said diagnostic cell match counter normally passed by said diagnostic cells to fail to detect passage thereof~~said failure location in said datapath~~.

2(currently amended). The method of identifying a failure location ~~in said datapath~~ as claimed in claim 1, wherein

    ~~said ingress point and said egress point reside on a same component in said~~

~~communication element;~~

~~said set of datapaths is routed from~~ said ingress point ~~to~~ and said egress point reside on the same component, and said datapath is routed from said ingress point to said egress point via a ~~hardware~~ loop-back; ~~and~~

~~said diagnostic cell counter module tracks passage of said diagnostic cell past said first location using a counter.~~

3 (cancelled). The method of identifying a failure location in said datapath in a set of datapaths as claimed in claim 2 wherein said failure location is identified as being downstream of said first location when said diagnostic cell counter module recognized that said diagnostic cell passed said first location.

4(cancelled).

5 (cancelled).

6 (canceled).

7. (currently amended) A system for identifying a failure location in a communications network having components capable of carrying active data traffic in the form of customer cells over a set of datapaths ~~datapath in a set of datapaths in a communication element, said datapath traversing from an ingress point through at least a first component to an egress point~~, said system comprising:

   a diagnostic cell insertion module for inserting diagnostic cells at a starting point in a datapath between an ingress point and an egress point:

   ~~at least a first~~ a plurality of ~~-~~diagnostic cell match counters located along said datapath downstream of said starting point for tracking passage of said diagnostic cells at a plurality of points along said datapath , said diagnostic cell match counters being capable of distinguishing

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said diagnostic cells from said customer cells; and

~~module adapted to be associated with a first location in said first component, said first diagnostic cell counter module recognizing when a diagnostic cell inserted into a data traffic stream passing through said datapath passes said first location and tracking passage of said diagnostic cell past said first location;~~

~~an~~ analysis module ~~adapted~~ configured to analyze said diagnostic cell match counter modules to identify which said diagnostic cell match counters have failed to detect passage of said diagnostic cells, said analysis module identifying said failure location in said datapath as being upstream of the first said diagnostic cell match counter normally passed by said diagnostic cells to fail to detect passage thereof~~said failure location in said any datapath~~.

8(currently amended). The system for identifying a failure location ~~in said datapath in a set of datapaths~~ as claimed in claim 7 wherein said ingress point and said egress point reside on a same component in said communication element~~;~~, and said datapath ~~said set of datapaths~~ is routed from said ingress point to said egress point via a ~~hardware~~ loop-back~~; and~~

~~said diagnostic cell counter module tracks passage of said diagnostic cell past said first location using a counter.~~

9(canceled).

10(canceled).

11(canceled).

12.(canceled)

13. (currently amended) The method of identifying a failure location in said datapath as claimed

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in claim 51, wherein said diagnostic cells is successfully traversing said datapath are extracted from said datastream at an extraction point location located downstream from said second location if said diagnostic cell is received at said extraction location diagnostic cell match counters.

14 (currently amended). The method of identifying a failure location in said datapath as claimed in claim 13, wherein an error condition is noted if a preset time has elapsed elapses prior to between the insertion and extraction of a particular said diagnostic cell from said extraction location, then an error condition is noted.

15. (currently amended)   A method of identifying a failure location in a communications network having components capable of carrying active data traffic in the form of customer cells over a set of datapaths a failure location in a datapath in a set of datapaths, said datapath traversing from an ingress point through at least a first component to an egress point, said method comprising:

establishing a datapath through said communications network;

inserting a diagnostic cells into said first datapath at a starting point, said diagnostic cells being distinct from said customer cells upstream of said first component in said datapath;

tracking passage of said diagnostic cells at a plurality of points along said first datapath with providing at least a first diagnostic cell match counters module associated w capable of distinguishing said diagnostic cells from said customer cells; ith a first location in said first component, said first diagnostic cell counter module recognizing when said diagnostic cell passes said first location and tracking passage of said diagnostic cell past said first location; and

analyzing counts in said diagnostic cell match counters module to identify which said diagnostic cell match counters have failed to detect passage of said diagnostic cells;

identifying said failure location in said first datapath as being upstream of the first said diagnostic cell match counter normally passed by said diagnostic cells to fail to detect passage thereof; and

wherein said

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~~data traffic traverses said ingress point to said egress point through another datapath in said set of data paths~~datapath is designated for carrying said diagnostic cells to the exclusion of said customer cells, which are carried on another datapath.

16. (currently amended) The method of identifying a failure location ~~in a datapath in a set of datapaths~~ as claimed in claim 15, wherein

———— said datapath carrying said diagnostic cells is established from an~~said~~ ingress point ~~and~~to ~~said~~an egress point residin~~g~~ on a same component ~~component in said communication element~~;

————~~said set of datapaths is routed from said ingress point to said egress point~~ via a hardware loop-back~~; and~~

————~~said diagnostic cell counter module tracks passage of said diagnostic cell past said first location using a counter.~~

17 (canceled).

18(canceled).

19(canceled).

20 (currently amended) The method of identifying a failure location in said datapath as claimed in claim ~~19~~15 wherein said ~~any one of said any~~datapath is a VPI/VCI connection in an ATM network.

21.(new). The method of claim 1, wherein said diagnostic cells are ATM cells with distinctive headers.

22.(new) The method of claim 1, further comprising first determining whether said inserted

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diagnostic cells traverse said datapath within a predetermined elapsed time; and performing said analyzing in response to a determination that said inserted diagnostic cells have not traversed said datapath within said predetermined elapsed time.

23.(new)   The method of claim 22, wherein said analyzing of said diagnostic cell match counters is performed progressively upstream from the most downstream diagnostic cell match counter to identify said first said diagnostic cell match counter.

24.(new)   The method of claim 1, wherein said datapath is dedicated to said diagnostic cells.

25.(new)   The method of claim 1, wherein said datapath is shared with said customer cells.

26.(new   The system of claim 7, further comprising a timer for determining whether said diagnostic cells traverse said datapath within a predetermined elapsed time, and wherein said analysis module is operative to analyze said diagnostic cell match counters in response a determination that said diagnostic cells have not traversed said datapath within said predetermined elapsed time.

27.(new).   The system of claim 26, wherein said analysis module is operative to analyze said cell match counters progressively upstream from the most downstream diagnostic cell match counter to identify said first said diagnostic cell match counter.

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